

REMARKS

The present amendment is in response to the Office Action dated January 26, 2005. By the present amendment, claims 1, 2, 12, 20, 33, 43, 44, and 51 have been amended. Claims 1- 66 are pending in the present application. Reconsideration and allowance of pending claims 1-66 in view of the amendments and the following remarks are respectfully requested.

A. Objection to claim 44

In paragraph 1 of the office action, the Examiner objected to claim 44 due to an informality. The applicant has amended claim 44 to correct a typographical error to recite "the registration" as a singular.

B. Objection to the Specification

In paragraph 2 of the office action, the Examiner objects to the Abstract of the Specification, citing to a typographical error. The applicant submits an amended Abstract (paragraph 0043), which corrects the typographical error to properly recite that "A base station comprises ...".

C. Rejection of claims 1-5, 9-13, 15-17, 33, 34, and 39-41 under 35

USC §102

In paragraphs 3 and 4 of the office action, the Examiner rejected claims 1-5, 9-13, 15-17, 33, 34, and 39-41 under 35 USC §102(e) as being anticipated by US Patent No. 6,411,811 ("Kingdon"). The applicant respectfully traverses this rejection, and believes that the rejected claims, when properly interpreted, recite limitations not found in Kingdon. For example, in the Summary of the Invention, the specification states that:

Moreover, the systems and methods described herein allow the wireless communication device to be "primed" with assist information so that they can automatically acquire the requisite GPS satellites upon receiving a position request. ... The information can be stored in the devices, and then when one of the devices receives a position request, it

can automatically access the stored information and quickly acquire the appropriate GPS satellite without accessing the network portion of the communication system. (*Specification, Paragraph 006*).

By enabling the “priming” of the GPS enabled device, the claimed invention is able to “reduce the burden of the network by distributing the position assist capabilities throughout the network”. *Specification, paragraph 6*. This has the advantage , for example, “to reduce traffic over the communication channels, especially during a large-scale emergency”. *See, Specification, paragraph 33*. In this way, the method of claim 1 is properly read so that the GPS satellite information is transmitted to the GPS enabled device at a time that is not associated with a position request.

This is consistent with exemplary system 100 of the Specification. System 100 is described and illustrated (Fig. 1) to have a BSC (Base Station Controller) that periodically transmits position assist information to mobile device 102. *See, Specification, Paragraph 23 and Fig. 1*. “Thus, device 102 is primed with position assist information. If device 102 subsequently receives a position request, it preferably is configured to automatically access the position assist information and to use the information to acquire the appropriate GPS satellites ...”. Since the position assist information is transmitted at a time that is not associated with a position request, when the position request subsequently is made, the device 102 can use the “primed” information to acquire the appropriate GPS satellites. Kingdon discloses no such limitation.

In contrast, Kingdon discloses a GPS assist system that is initiated when a Location Application (LA) makes a position request. *See, Kingdon, col. 3, lns. 56-65*:

With reference now to FIG. 2 of the drawings, which will be described in connection with FIG. 3 of the drawings, when a requesting Location Application (LA) 250 requests positioning of a Mobile Station (MS) 200 within a Public Land Mobile Network (PLMN) 290 (step 300), the positioning request is forwarded to a Mobile Location Center 240 serving the PLMN 290 (step 310).

It is only after the LA makes its request that assist information is transmitted. *See, Kingdon, col. 3, Ins. 56 to col. 4, In. 29.* Since the assist transmissions are responsive to a position request, Kingdon uses the undesirable process set out in the Background of the Specification. Such a system, in a large-scale emergency, is likely to become inundated and crippled, just when it is need most. *See Specification, paragraph 5.*

Although the applicant believes that not all the limitations of independent claims 1, 12, and 33 can be found in Kingdon, to facilitate efficient prosecution of this application the applicant has amended independent claims 1 and 33 to make clear by express statement that GPS satellite information is transmitted to a GPS enabled device at a time that is not associated with a position request. In a similar manner, the applicant has amended independent claim 12 to make clear that GPS satellite information is received from a base station at a time that is not associated with a position request. Since all the limitation of claims 1, 12, and 33 cannot be found in Kingdon, the applicant respectfully submits that these independent claims cannot be anticipated by Kingdon. In a similar manner, dependent claims 2-5, 9-11, 13, 15-17, 34, and 39-41 also cannot be anticipated by Kingdon.

The applicant has also corrected an error in claim 2, which now recites that the “GPS satellite information is transmitted periodically.”

D. Rejection of claims 20-22, 27, and 29 under 35 USC §102

In paragraph 5 of the office action, the Examiner rejected claims 20-22, 27, and 29 under 35 USC §102(e) as being anticipated by US Patent No. 6,525,689 (“Dooley”). The applicant respectfully traverses this rejection, and believes that the rejected claims, when properly interpreted, recite limitations not found in Dooley. For example, in the Summary Of the Invention, the specification states that:

Moreover, the systems and methods described herein allow the wireless communication device to be “primed” with assist information so that they can automatically acquire the requisite GPS satellites upon

receiving a position request. ... The information can be stored in the devices, and then when one of the devices receives a position request, it can automatically access the stored information and quickly acquire the appropriate GPS satellite without accessing the network portion of the communication system. (*Specification, Paragraph 006*).

By enabling the “priming” of the GPS enabled device, the claimed invention is able to “reduce the burden of the network by distributing the position assist capabilities throughout the network”. *Specification, paragraph 6*. This has the advantage , for example, “to reduce traffic over the communication channels, especially during a large-scale emergency”. *See, Specification, paragraph 33*. In this way, the method of claim 1 is properly read so that the GPS satellite information is transmitted to the GPS enabled device at a time that is not associated with a position request.

This is consistent with exemplary system 100 of the Specification. System 100 is described and illustrated (Fig. 1) to have a BSC (Base Station Controller) that periodically transmits position assist information to mobile device 102. *See, Specification, Paragraph 23 and Fig. 1*. “Thus, device 102 is primed with position assist information. If device 102 subsequently receives a position request, it preferably is configured to automatically access the position assist information and to use the information to acquire the appropriate GPS satellites ...”. Since the position assist information is transmitted at a time that is not associated with a position request, when the position request subsequently is made, the device 102 can use the “primed” information to acquire the appropriate GPS satellites. Dooley discloses no such limitation.

In contrast, Dooley discloses a dispreading system that acquires position information on the mobile device to more accurately process GPS signals. As described in Dooley, col. 4:

In accordance
with the present invention, this information is modified so as
40 to reflect the position of the mobile unit, i.e. to described the
Doppler shift and code phase of the GPS signals as would be
observed at the mobile unit.

Dooley, at col. 6, further states that:

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An initial estimate of the position of a mobile unit may be provided in a variety of conventionally ways, for example, by retrieving a last known GPS derived position of the mobile unit from a memory store at the base station or at the
10 mobile phone or elsewhere and supplied to the base station upon request. Alternatively, time of arrival, time difference of arrival and/or angle of arrival measurements may be made between the mobile unit and at least one base station, by either the mobile unit or the or each base station, from which
15 an position estimate may be provided.

In this way, Dooley must undertake a process to find or estimate the location of the mobile device to modify the GPS signals. Most importantly, this is done responsive to a position request. For example, Dooley, col. 4, states that:

In the event of the user of the mobile cellular telephone MS1 making an emergency call and under the control of the system controller SC via a
45 two-way communication link CL1, the base station BS1 may provide this modified information to the telephone whereby it is then only required to sweep a narrowed range of frequencies and code phases in which the GPS PRN code is known to occupy, ensuring rapid code acquisition and
50 TTFF.

As stated above, this "modified information" is provided only upon "the event of the mobile cellular telephone making an emergency call". Accordingly, the timing of the transmission is associated with a particular position request.

Although the applicant believes that not all the limitations of independent claim 20 can be found in Kingdon, to facilitate efficient prosecution of this application the applicant has amended independent claim 20 to make clear by express statement that the base station has a transmitter configured to transmit GPS satellite information to a GPS enabled device at a time that is not associated with a position request. Since all the limitations of claim 20 cannot be found in Dooley, the applicant respectfully submits that independent claim 20 cannot be anticipated by Dooley. In a similar manner, dependent claims 20-21, 27, and 29 also cannot be anticipated by Dooley.

E. Rejection of claims 6 and 14 under 35 USC §103

In paragraphs 6 and 7 of the office action, the Examiner rejected claims 6 and 14 under 35 USC §103(a) as being unpatentable over US Patent No. 6,411,811 ("Kingdon") in view of US Patent Publication No. 2003/0125046 ("Riley"). As described in Section C of this Response, Kingdon fails to disclose all the limitations of the rejected claims. For example, Kingdon fails to teach or suggest that the GPS satellite information is transmitted to the GPS enabled device at a time that is not associated with a position request. Riley also fails to disclose this limitation, instead teaching a system that corrects base station location information after determining distances to mobile stations with known positions. *See, Riley, paragraph 14.* More particularly, the position information for the mobile stations is sent to the base station to more accurately configure the base station:

[0015] In a preferred implementation, the position and timing offset of a mobile station is determined independently of the position and timing offset of a base station. If the position and timing offset of the mobile station is determined from global position satellites or from a number of quality signals from base stations having known positions and timing offsets, then it is possible for the position and timing offset of the mobile station to be quite precise, often to approximately meter and nanosecond level accuracy. This position and timing offset now known for the mobile station, together with a measurement of signal transmission between the mobile station and the base station, gives a constraint upon the possible location of the base station.

As described above, Riley actually discloses sending "assist" information from the mobile devices to the base station, which teaches away from the method for providing or receiving position assist information from a base station", as recited in claims 6 and 7. Accordingly, there is no motivation to combine the references as Riley teaches away from such a combination. Since Kingdon and Riley, either alone or in combination, fail to disclose all the limitations of claims 6 and 14, and there is no motivation to combine, the applicant submits that claims 6 and 14 are not rendered obvious.

F. Rejection of claims 7, 8, 18, 19, 37, and 38 under 35 USC §103

In paragraph 8 of the office action, the Examiner rejected claims 7, 8, 18, 19, 37 and 38 under 35 USC §103(a) as being unpatentable over US Patent No. 6,411,811 ("Kingdon") in view of US Patent No. 6,300,899 ("King"). As described in Section C of this Response, Kingdon fails to disclose all the limitations of the rejected claims. For example, Kingdon fails to teach or suggest that the GPS satellite information is transmitted to the GPS enabled device at a time that is not associated with a position request. King fails to overcome the deficiency in Kingdon, instead describing a fixed site data-aided GPS signal acquisition system. For example, King, at col. 14, summarizes its disclosure as follows:

An improved GPS signal acquisition method and system has been detailed. By lengthening a pre-detection integration interval weak signals can be detected. The signal detection
10 improvement is accomplished by capturing and operating on synchronously captured GPS satellite signals. Coherency is ensured by relying on the predictability of the satellite signal's data pattern. To speed up both the real-time and off-line correlation process a reduced code replica search
15 space is derived dependent on a reference code phase delay and reference Doppler shift, and optionally local time received from a fixed position reference site. Also, the off-line correlation process can be run at a speed significantly faster than the real-time correlation process. A position
20 fix can be either computed locally, or remotely at the fixed position reference site. The first signal to lock associated with the real-time code phase delay and the off-line code phase delay is sent to the fixed position reference site. By applying all of the described techniques position deter-
25 mining data can be typically acquired within a few seconds rather than tens of seconds, even in weak signal areas. This allows for energy conservation—an important feature in portable devices, and makes E911 service viable in a portable product.

Since Kingdon and King, either alone or in combination, fail to disclose all the limitations of claims 7, 8, 18, 19, 37, and 38, the applicant submits that these claims are not rendered obvious.

G. Rejection of claims 23, 28, 30, and 31 under 35 USC §103

In paragraph 9 of the office action, the Examiner rejected claims 23, 28, 30 and 31 under 35 USC §103(a) as being unpatentable over US Patent No. 6,525,689 (“Dooley”) in view of US Patent No. 6,411,811 (“Kingdon”). As described in Section D of this Response, Dooley fails to disclose all the limitations of the rejected claims. Further, as described in Section C of this Response, Kingdon also fails to disclose all the limitations of the rejected claims. For example, both Dooley and Kingdon fail to teach or suggest that the GPS satellite information is transmitted to the GPS enabled device at a time that is not associated with a position request. Since Dooley and Kingdon, either alone or in combination, fail to disclose all the limitations of claims 23, 28, 30, and 31, the applicant submits that these claims are not rendered obvious.

H. Rejection of claim 24 under 35 USC §103

In paragraph 10 of the office action, the Examiner rejected claim 24 under 35 USC §103(a) as being unpatentable over US Patent No. 6,525,689 (“Dooley”) in view of US Patent Publication No. 2001/0044312 (“Yamane”) and US Patent Publication No. 2003/0125046 (“Riley”). As described in Section D of this Response, Dooley fails to disclose all the limitations of the rejected claims, and as described in Section E of this Response, Riley also fails to disclose all the limitations of the rejected claims. For example, both Dooley and Riley fail to teach or suggest that the GPS satellite information is transmitted to the GPS enabled device at a time that is not associated with a position request. Yamane fails to overcome the deficiency in Dooley and Riley. For example, Yamane uses a system where a mobile station sends location information to a switchboard through a plurality of base stations. *See Yamane, Abstract*. In order to do so, the mobile station must already know its location, and the registration of the mobile’s location is done after a registration request is made. *See Yamane, paragraph 63*. Accordingly, Yamane also fails to disclose or suggest that GPS satellite information is transmitted to the GPS enabled device at a time that is not

associated with a position request. Since Dooley, Riley, and Yamane, either alone or in combination, fail to disclose all the limitations of claim 24, the applicant submits that claim 24 is not rendered obvious.

I. Rejection of claims 25 and 26 under 35 USC §103

In paragraph 10 of the office action, the Examiner rejected claims 25 and 26 under 35 USC §103(a) as being unpatentable over US Patent No. 6,525,689 ("Dooley") in view of US Patent No. 6,300,899 ("King"). As described in Section D of this Response, Dooley fails to disclose all the limitations of the rejected claims, and as described in Section F of this Response, King also fails to disclose all the limitations of the rejected claims. For example, both Dooley and King fail to teach or suggest that the GPS satellite information is transmitted to the GPS enabled device at a time that is not associated with a position request. Since Dooley and King, either alone or in combination, fail to disclose all the limitations of claims 25 and 26, the applicant submits that these claims are not rendered obvious.

J. Rejection of claim 32 under 35 USC §103

In paragraph 12 of the office action, the Examiner rejected claims 32 under 35 USC §103(a) as being unpatentable over a combination of US Patent No. 6,525,689 ("Dooley") and US Patent No. 6,411,811 ("Kingdon") in further view of US Patent No. 6,636,740 ("Ramesh"). As described in Section D of this Response, Dooley fails to disclose all the limitations of the rejected claims. Further, as described in Section C of this Response, Kingdon also fails to disclose all the limitations of the rejected claims. For example, both Dooley and Kingdon fail to teach or suggest that the GPS satellite information is transmitted to the GPS enabled device at a time that is not associated with a position request. Ramesh fails to overcome the deficiency in Dooley and Kingdon. For example, Ramesh fails to disclose receiving GPS satellite information at a time that is not associated with a position request. At col. 3, Ramesh states:

By receiving position data from a base station of a radio communication network, as well as ephemeris data for positioning satellites in the viewing area of the base station/computation apparatus and timing information, the position computation apparatus of the present invention is able to generally operate in warm start mode for satellite acquisition at all times when access to the radio communication network is available, thereby providing for the lowest power consumption and fastest acquisition time for position computation operations.

Thus, as explained above, the computation apparatus of Ramesh obtains signal data from the base station at the time a position location is needed. In order to facilitate timely position calculations, this means the signal data must be provided continually at a rate sufficient to support timely position calculations. Figure 3 of Ramesh further shows that the positioning data is acquired and immediately used with the satellite messages. In this way, the timing of the positioning data is necessarily associated with the timing of a position request. If the positioning data is not available when a position request is made, then the Ramesh device reverts to calculating position without using position data. See Ramesh, col. 7:

While not illustrated as a separate block in FIG. 3, when the apparatus is outside the coverage area of a radio communication network broadcasting positioning data, a positioning satellite is acquired without positioning data using known non-warm start initialization procedures.

Since Dooley, Kingdon, and Ramesh, either alone or in combination, fail to disclose all the limitations of claim 32, the applicant submits that claim 32 is not rendered obvious.

K. Rejection of claims 35, 43, 45-49, 51-54, and 58-65 under 35 USC

§103

In paragraph 13 of the office action, the Examiner rejected claims 35, 43, 45-49, 51-54, and 58-65 under 35 USC §103(a) as being unpatentable over US Patent No. 6,411,811 ("Kingdon") in view of US Patent No. 6,525,689 ("Dooley"). The applicant respectfully traverses this rejection as to independent claims 43 and 51, and believes that the rejected claims, when properly interpreted as discussed in Sections C and D, recite limitations not found in Kingdon and Dooley. Although the applicant believes that not all the limitations of claims 43 and 51 can be found in Kingdon and Dooley, to facilitate efficient prosecution of this application the applicant has amended independent claims 43 and 51 to make clear by express statement that GPS satellite information is received from a base station at a time that is not associated with a position request.

As described in Section D of this Response, Dooley fails to disclose all the limitations of the rejected claims. Further, as described in Section C of this Response, Kingdon also fails to disclose all the limitations of the rejected claims. For example, both Dooley and Kingdon fail to teach or suggest that the GPS satellite information is transmitted to the GPS enabled device at a time that is not associated with a position request. Since Kingdon and Dooley, either alone or in combination, fail to disclose all the limitations of claims 35, 43, 45-49, 51-54, and 58-65, the applicant submits that these claims are not rendered obvious.

L. Rejection of claim 36 under 35 USC §103

In paragraph 14 of the office action, the Examiner rejected claim 36 under 35 USC §103(a) as being unpatentable over US Patent No. 6,411,811 ("Kingdon") in view of US Patent Publication No. 2001/0044312 ("Yamane") and US Patent Publication No. 2003/0125046 ("Riley"). As described in Section C of this Response, Kingdon fails to disclose all the limitations of the rejected claims. As described in Section E of this Response, Riley also fails to disclose all the limitations of the rejected claims. And as described in Section H of this

Response, Yamane also fails to disclose all the limitations of the rejected claims. Since Kingdon, Riley, and Yamane, either alone or in combination, fail to disclose all the limitations of claim 36, the applicant submits that claim 36 is not rendered obvious.

M. Rejection of claim 42 under 35 USC §103

In paragraph 15 of the office action, the Examiner rejected claim 42 under 35 USC §103(a) as being unpatentable over US Patent No. 6,411,811 ("Kingdon") in view of US Patent No. 6,636,740 ("Ramesh"). As described in Section C of this Response, Kingdon fails to disclose all the limitations of the rejected claims. As described in Section J of this Response, Ramesh also fails to disclose all the limitations of the rejected claims. Since Kingdon and Ramesh, either alone or in combination, fail to disclose all the limitations of claim 42, the applicant submits that claim 42 is not rendered obvious.

N. Rejection of claims 44, 55, and 57 under 35 USC §103

In paragraph 16 of the office action, the Examiner rejected claims 44, 55, and 57 under 35 USC §103(a) as being unpatentable over a combination of US Patent No. 6,525,689 ("Dooley") and US Patent No. 6,411,811 ("Kingdon") in further view of US Patent Publication No. 2001/0044312 ("Yamane") and US Patent Publication No. 2003/0125046 ("Riley"). As discussed in Sections D (Dooley), C (Kingdon), H (Yamane), and E (Riley), none of the cited references, either alone or in combination, disclose all the limitations of claims 44, 55, and 57. Accordingly, the applicant submits that claims 44, 55, and 57 are not rendered obvious.

O. Rejection of claims 50 and 66 under 35 USC §103

In paragraph 17 of the office action, the Examiner rejected claims 50 and 66 under 35 USC §103(a) as being unpatentable over a combination of US Patent No. 6,525,689 ("Dooley") and US Patent No. 6,411,811 ("Kingdon") in

further view of US Patent No. 6,636,740 ("Ramesh"). As discussed in Sections D (Dooley), C (Kingdon), and J (Ramesh), none of the cited references, either alone or in combination, disclose all the limitations of claims 50 and 66. Accordingly, the applicant submits that claims 50 and 66 are not rendered obvious.

P. Rejection of claim 56 under 35 USC §103

In paragraph 18 of the office action, the Examiner rejected claim 56 under 35 USC §103(a) as being unpatentable over a combination of US Patent No. 6,525,689 ("Dooley") and US Patent No. 6,411,811 ("Kingdon") in further view of US Patent No. 6,300,899 ("King"). As discussed in Sections D (Dooley), C (Kingdon), and F (King), none of the cited references, either alone or in combination, disclose all the limitations of claim 56. Accordingly, the applicant submits that claim 56 is not rendered obvious.

Q. Provisional Double Patenting Rejection

In paragraphs 19-20 of the office action, the examiner provisionally rejected claim 1 under the judicially created doctrine of obvious-type double patenting as being unpatentable over claims 9 and 12 of co-pending application no. 10/046,959. The applicant respectfully requests that the Examiner hold this rejection in abeyance until the Examiner has determined that claim 1 is allowable.

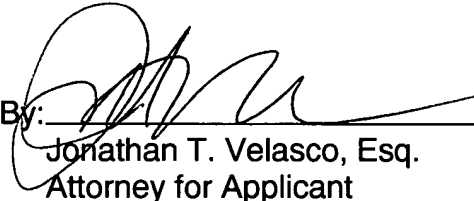
R. Conclusion

The applicant has reviewed the prior art made of record and not relied upon, as identified in paragraph 21 of the office action. The applicant respectfully submits that the pending claims are patentably distinguishable from the identified art.

For all the foregoing reasons, an allowance of claims 1-66 pending in the present application is respectfully requested.

Respectfully submitted,

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